

Figs. 3-5. *Antedon spicata*, Carpenter.

Fig. 3. Side view of the second and following brachials, with their pinnules ; the second pair of pinnules have their ends broken away. $\times 3$.

4. A cirrus, $\times 3$.

5. Dorsal view of the middle part of an arm, $\times 3$.

Figs. 6, 7. *Antedon Milberti*, Müll., sp.

Fig. 6. Side view of the second and following brachials, with their pinnules, $\times 2$.

7. The same, from another individual, $\times 2$.

Fig. 8. *Antedon Andersoni*, sp. n.

Fig. 8. A cirrus, $\times 2$.

On the Echinoidea of the Mergui Archipelago, collected for the Trustees of the Indian Museum, Calcutta, by Dr. John Anderson, F.R.S., Superintendent of the Museum. By Prof. P. MARTIN DUNCAN, M.B. (Lond.), F.R.S., F.L.S., and W. PERCY SLADEN, F.G.S., Sec. L.S.

[Read 21st June, 1888.]

THE Echinoidea collected by Dr. Anderson are represented by six species; and although these are all known forms their association in such a limited area is remarkable, and, so far as we are aware, without precedent. The fact that all the regular Echinids belong to the family Temnopleuridæ is especially striking; and the circumstance is the more noteworthy, as in a collection from the Andaman Islands, described last year by Prof. Jeffrey Bell, not a single Temnopleurid is recorded; and, furthermore, out of nine genera mentioned by him as occurring at the Andaman Islands, not one is represented in the collection placed in our hands from the Mergui Archipelago.

All the species, with the exception of one, are essentially Indian-Ocean forms; the majority of the examples, however, present a certain amount of variation when compared with specimens from other localities which is sufficient to impart a local character. These differences are recorded in the following notes; but we have not thought them of sufficient importance to warrant in any case their recognition by name as a definite variety.

Perhaps the most interesting form in the collection, which is not a characteristic Indian-Ocean species, is *Arachnoides placenta*. The home of this Echinid is Australia and New Zealand; and, with the exception of an example in the Boston Museum from Burmah, mentioned by Alex. Agassiz, no other occurrence of the species in the Indian Ocean proper is on record.

Subclass **EUECHINOIDEA**, *Bronn*.

Order **DIADEMATOIDA**.

Suborder **STEREOSOMATA**.

Family **TEMNOPLEURIDÆ**.

Subfamily **TEMNOPLEURINÆ**.

Genus **TEMNOPLEURUS**, *Agassiz*.

1. **TEMNOPLEURUS TOREUMATICUS** (*Klein*), *Agassiz*.

Cidaris toreumatica, *Klein*, 1734, *Nat. Disp. Echin.* p. 22.

Temnopleurus toreumaticus, *Agassiz*, 1841, *Monogr. Scutelles*, p. 7.

Locality. King Island (native name *Padaw*).

Genus **SALMACIS**, *Agassiz*.

1. **SALMACIS SULCATA**, *Agassiz*.

Salmacis sulcata, *Agassiz*, 1846, *Cat. Rais., Ann. Sci. Nat.* vol. vi. p. 359.

Locality. King Island (native name *Padaw*); 25th Jan. 1882.

Remarks. Test slightly conical, with large well-marked pits. Spines rather short, those on the actinal surface a rich dark purple or violet, but white at the base and occasionally at the tip; close to the peristome more white is present. Miliaries and many secondaries altogether white.

Colour of the test green, with a brighter or yellowish shade along the median areas of the ambulacral and interambulacral areas.

2. **SALMACIS DUSSUMIERI**, *Agassiz*.

Salmacis Dussumieri, *Agassiz*, 1846, *Cat. Rais., Ann. Sci. Nat.* vol. vi. p. 359.

Locality. King Island (native name *Padaw*); 25th Jan. 1882.

Remarks. Most of the specimens of this species known in Museums are denuded of spines. The example under notice is well preserved. The spines at the ambitus are remarkable for their length and disproportionate size in relation to the other

spines on the test; the Urchin, when viewed from above, has in consequence the appearance of being furnished with a richly variegated fringe. These spines are white, banded on the outer two thirds with narrow rings of reddish purple. The other spines on the test, which are small, delicate, and sharply pointed, are white. The colour of the test is creamy white. The naked median areas are broad and very conspicuous.

3. *SALMACIS BICOLOR*, *Agassiz*.

Salmacis bicolor, *Agassiz*, 1841, in *Valentin, Anat. Genre Echinus*, p. viii.

Locality. King Island (native name *Padaw*); Jan. 1882; sublittoral.

Remarks. One of the examples from King Island is somewhat higher and more conical in the test than the other specimen; and both are relatively higher and more conical than examples from Mauritius. In general habit and coloration the lower example from King Island strikingly recalls examples from Madras. This may probably be a variety. The colour of the spines is light green, banded with rich reddish purple and a light pinkish purple at the base, both on the abactinal and actinal surfaces.

Order CLYPEASTROIDA.

Family LAGANIDÆ, (subfamily) *A. Agassiz*.

Genus LAGANUM, *Klein*.

1. *LAGANUM DEPRESSUM*, *Agassiz*.

Laganum depressum (*Lesson & Garnot, MS.*), *Agassiz*, 1841, *Monogr. Scutelles*, p. 110.

Locality. King Island (native name *Padaw*); 25th Jan. 1882.

Family SCUTELLIDÆ, *Agassiz*.

Subfamily ARACHNINÆ.

Genus ARACHNOIDES, *Klein*.

1. *ARACHNOIDES PLACENTA* (*Linné*), *Agassiz*.

Echinus placenta, *Linné*, 1766, *Syst. Nat.* ed. xii. p. 1105.

Arachnoides placenta, *Agassiz*, 1841, *Monogr. Scutelles*, p. 94.

Locality. King Island (native name *Padaw*); Feb. 1882.

Remarks. The single example collected by Dr. Anderson is

of large size, and differs somewhat in the marginal contour from Australian and New-Zealand specimens; the odd anterior radial area being rather more prominent, and the anterior pair of inter-radial areas flatter in their curvature, which causes the margin of the test to be less fully rounded in front, and the greatest breadth to be more conspicuously posterior to the postero-lateral petals. The marginal contour is, however, subject to such a great amount of variation throughout the family, that we do not consider it of sufficient importance to give a name to the variety; and until a further series of examples is available, we confine ourselves to the simple record of the circumstance.

On the Asteroidea of the Mergui Archipelago, collected for the Trustees of the Indian Museum, Calcutta, by Dr. John Anderson, F.R.S., Superintendent of the Museum. By W. PERCY SLADEN, F.G.S., Sec. L.S.

[Read 21st June, 1888.]

(PLATE XXVIII.)

THE collection of Asteroidea made by Dr. Anderson in the Mergui Archipelago, although small, is particularly interesting. It is noteworthy, not only from the fact that it contains several new as well as rare forms, but also because some of the examples which I have referred to known species show variations which are sufficient to impart a character to the collection as a whole, and to indicate the existence of local conditions whose action upon types of a more plastic nature than that of the series of forms so far collected would probably result in new morphological developments. That the representatives of other forms occur in this area is highly probable; and it seems to me, therefore, a reasonable expectation that a number of "new species" may ultimately be found in the Mergui Archipelago when further dredging operations are carried out. From what I have seen, I think it is not too bold to throw out the suggestion that the Mergui area may be looked upon as a moulding ground wherein Malayan types assume a modified form, approaching to a certain extent the Indian-Ocean facies, but maintaining a local and independent character.